

WHAT IS CLAIMED:

1. Method for the adhesive bonding of a backing plate for a sensor assembly to a vehicle window, especially a windscreen of a passenger car or truck, the backing plate having an adhesive layer and being heated at least in the area of the adhesive layer by a heating device until the adhesive layer is sufficiently softened for the formation of an adhesive bonded connection, the backing plate being transferred into a contact pressure device, the contact pressure device pressing the backing plate with the adhesive layer on to the vehicle window for a predetermined length of time,

wherein the heating device has a heater operable to emit infrared radiation, heating of the layer of adhesive being carried out until it has softened sufficiently by positioning the backing plate with the adhesive layer facing the heater relatively close to the heater for a predetermined length of time.

2. Method according to Claim 1, wherein the backing plate is preheated by a preheating device before being transferred to the heating device.

3. Method according to Claim 1, wherein, before it is transferred to the heating device, the backing plate is arranged in a storage container, in which at least one backing plate is provided.

4. Method according to Claim 2, wherein, before it is transferred to the heating device, the backing plate is arranged in a storage container, in which at least one backing plate is provided.

5. Method according to Claim 1, wherein the adhesive layer of the backing plate is provided with a protective film, which is removed by the heating device prior to softening of the adhesive layer.

6. Method according to Claim 2, wherein the adhesive layer of the backing plate is provided with a protective film, which is removed by the heating device prior to softening of the adhesive layer.

7. Method according to Claim 3, wherein the adhesive layer of the backing plate is provided with a protective film, which is removed by the heating device prior to softening of the adhesive layer.

8. Method according to Claim 5, wherein the protective film is affixed to the storage container in such a way that the protective film is automatically stripped from the adhesive layer when the backing plate is taken out of storage container.

9. Method according to Claim 6, wherein the protective film is affixed to the storage container in such a way that the protective film is automatically stripped from the adhesive layer when the backing plate is taken out of storage container.

10. Method according to Claim 8, wherein the protective film is adhesively bonded to the storage container.

11. Method according to Claim 9, wherein the protective film is adhesively bonded to the storage container.

12. Method according to Claim 8, wherein the protective film is adhesively bonded to a film substrate, which is detachably fixed to the storage container, especially by clipping.

13. Method according to Claim 9, wherein the protective film is adhesively bonded to a film substrate, which is detachably fixed to the storage container, especially by clipping.

14. Method according to Claims 1, wherein heating of the adhesive layer is carried out until it is sufficiently softened by routing a traverse path for

transferring the backing plate into the contact pressure device along the heater, so that the adhesive layer is exposed to the infrared radiation.

15. Method according to Claim 1, wherein the contact pressure device has a robotic arm, which positions the backing plate at the heater of the heating device serving to emit infrared radiation, before it is pressed on to the vehicle window.

16. Method of bonding a sensor assembly backing plate having an adhesive layer to a vehicle window comprising:

heating the adhesive layer by infrared radiation, and

pressing the backing plate with the adhesive layer onto a vehicle window surface.

17. Method according to Claim 16, wherein said heating includes:

placing the backing plate with the adhesive layer at a close spacing from a heating device operable to emit infrared radiation, and

operating the heating device to emit infrared radiation for a predetermined time period.

18. Method according to Claim 17, wherein said predetermined time period is less than one minute.

19. Method according to Claim 18, wherein said predetermined time period is less than 30 seconds.

20. Method according to Claim 19, wherein said predetermined time period is approximately 20 seconds.

21. Method according to Claim 16, comprising:
preheating the backing plate and adhesive layer at a separate location from and prior to said heating step.

22. Method according to Claim 21, wherein said preheating includes use of infrared radiation.

23. Method according to Claim 16, comprising storing said backing plate in a storage container and moving the backing plate away from the storage container to a location where said heating is carried out.

24. Method according to Claim 23, comprising preheating the backing plate while it is in said storage container.

25. Method according to Claim 24, wherein the adhesive layer of the backing plate is provided with a protective film, which is removed by the heating device prior to softening of the adhesive layer.

26. Method according to Claim 25, wherein the protective film is affixed to the storage container in such a way that the protective film is automatically stripped from the adhesive layer when the backing plate is taken out of storage container.

27. Method according to Claim 26, wherein the protective film is adhesively bonded to the storage container.

28. Method according to Claim 26, wherein the protective film is adhesively bonded to a film substrate, which is detachably fixed to the storage container, especially by clipping.

29. Method according to Claim 28, comprising using a robot device to move the backing plate from the storage container to the heating device and to a pressing device operable to carry out said pressing onto a vehicle window.

30. Apparatus for bonding a sensor assembly backing plate having an adhesive layer to a vehicle window comprising:

means for heating the adhesive layer by infrared radiation, and

means for pressing the backing plate with the adhesive layer onto a vehicle window surface.

31. Apparatus according to Claim 30, wherein said heating includes:

means for placing the backing plate with the adhesive layer at a close spacing from a heating device operable to emit infrared radiation, and

means for operating the heating device to emit infrared radiation for a predetermined time period.

32. Apparatus according to Claim 31, wherein said predetermined time period is less than one minute.

33. Apparatus according to Claim 30, comprising means for preheating the backing plate and adhesive layer at a separate location from and prior to said heating step.

34. Apparatus according to Claim 33, wherein said preheating includes use of infrared radiation.

35. Apparatus according to Claim 30 comprising:

a storage container for storing at least one of said backing plates having an adhesive layer thereon,

means for preheating said at least one backing plate while in said storage container,

means for transferring said preheated backing plate to said means for heating, and

means for transferring said heated backing plate to the means for pressing,

whereby said bonding of said backing plate to a vehicle window can be rapidly carried out in an assembly line operation.